

Products Sep 20, 2019

Chassis and control systems

Ideal for the racetrack



718 Spyder: Fuel consumption combined 10.9 l/100 km; CO2 emissions combined 249 g/km

718 Cayman GT4: Fuel consumption combined 10.9 l/100 km; CO2 emissions combined 249 g/km

For the first time, the 718 Spyder will now enjoy the full GT chassis of the 718 Cayman GT4. Inspired by the Porsche 911 GT3, it is therefore based on technology tried and tested in motor racing. Many details have been further refined compared with its predecessor for use in the new GT4. The result is dynamic handling that is stable even at high speeds. The 718 Spyder and Cayman GT4 set new standards in agility and driving pleasure, captivating with a thrilling driving experience.

The 718 Cayman GT4 has set a new fastest lap on the Nordschleife at the Nürburgring. Its lap time of 7:28 minutes on the legendary 20.6 km racetrack was 12 seconds quicker than the time set by its predecessor, quicker even than the time achieved by the Carrera GT supercar when it was launched. Whereas the pure increase in power of the GT4 would have resulted in an improvement of only around three seconds, the overall package of aerodynamics, tyres and chassis-tuning made it possible to better the previous time by 12 seconds.

A lightweight spring-strut suspension, designed for extreme loads, guides the front wheels with particularly fine precision and provides the basis for highly agile steering response. Spring struts are also used on the reinforced lightweight rear axle. Here too, both the upside-down shock absorbers and the longitudinal and transverse control arms are taken from the GT3, as are the subframes. The same applies to the special ball joints, which allow mounting of the chassis without play. The rear axle's wheel knuckles have a unique design and provide additional stability.

PASM sports chassis lowered by 30 mm

The variable PASM (Porsche Active Suspension Management) sports damping system is included as standard equipment on the 718 Spyder and 718 Cayman GT4. It features two settings. In the basic one, it combines excellent driving dynamics and agility for everyday use on the roads. Sport mode is specifically designed for use on racetracks: it sharpens the car's handling characteristics, optimises traction and allows higher cornering speeds. Compared to other sports cars in the 718 model series, PASM sports suspension is 30 mm lower. This lowers the centre of gravity and also improves the vehicle's lateral dynamic handling characteristics.

Porsche Stability Management

The 718 Spyder and 718 Cayman GT4 also come with Porsche Stability Management (PSM) as standard. This combines Electronic Stability Control (ESC) and Traction Control (TC) and stabilises the limits of dynamic driving by means of selective braking on individual wheels. To do this, PSM uses sensor data on driving direction and lateral acceleration as well as road speed and yaw rate to calculate the actual direction of movement and constantly adjusts this to the desired line. In the 718 Cayman GT4 and 718 Spyder, the PSM system is even more sensitive and precise in its application of appropriate control interventions. At the same time, as with all Porsche GT models, the system can be turned off completely via two steps. This allows an unadulterated driving experience, for example on closed racing circuits, even though experienced drivers are barely able to achieve faster lap times with the PSM deactivated.

Porsche Torque Vectoring (PTV)

Another component of the PSM system is Porsche Torque Vectoring (PTV) with mechanical limited slip differential, which is included as standard equipment on the 718 Spyder and 718 Cayman GT4. This improves both longitudinal and lateral dynamics, increases performance through corners and enhances driving pleasure. While a braking signal to the inside rear wheel assists steering precision and agility, the mechanical limited slip differential supplies more propulsive force to the outer wheel. This boosts the desired rotation around the vehicle's vertical axis and improves traction when accelerating sharply out of tight corners.

Porsche Active Drivetrain Mounts (PADM)

Like the Porsche 718 T and 718 GTS, the 718 Cayman GT4 and the 718 Spyder also come equipped with the PADM system. Dynamic transmission mounts minimise vibrations in the engine/transmission area and reduce movements that could affect driving dynamics as a result of the total mass of the drivetrain. PADM therefore combines the advantages of hard and soft transmission mounts giving appreciably more precise and stable handling during changes in load and on fast corners, while driving comfort remains unaffected on uneven roads.

Powerful braking system

The powerful braking system of the new 718 Spyder and 718 Cayman GT4 matches the impressive performance of the two sports cars. Its generously sized aluminium monobloc fixed callipers are painted red and operate with six pistons on the front wheels and four on the rear. The composite brake discs – internally vented and perforated for better cooling – have aluminium brake chambers at the front and rear and a diameter of 380 mm. These allow for uniform deceleration values, which are suitable for the racetrack.

The Porsche Ceramic Composite Brake (PCCB), which has been tried and tested on the circuit, is also available as an optional extra on both models. It guarantees high resistance to fading, even under extreme loads, but the most striking advantage of their perforated, ceramic composite brake discs, which measure 410 mm at the front and 390 mm at the rear, is their low weight. They are a good 50 per cent lighter than comparable cast iron parts, which has a positive effect on the unsprung and rotating masses. This is an effect the driver will notice easily as the PCCB increases agility and improves both handling as well as rolling refinement and vehicle comfort. At

the same time, the aluminium monobloc brake callipers, six pistons at the front and four at the rear, are painted yellow and ensure a high and consistent braking pressure.

20-inch alloy wheels and ultra-high-performance tyres

For the first time, the Porsche 718 Spyder will run on the same 20-inch ultra-high-performance (UHP) sports tyres that are also included as standard on the 718 Cayman GT4. Its new N1 specification features an advanced, even more high-performance tread compound that offers a clear performance advantage on dry roads. 245/35 ZR 20 tyres are used on the front axle, whilst the rear wheels are fitted with 295/30 ZR 20 tyres. The silver-coloured 20-inch alloy wheels on the 718 Spyder feature wheel hub covers with a monochrome Porsche crest. The 718 Cayman GT4 comes with 20-inch wheels in satin gloss platinum with "GT4" wheel hub covers as standard.

Chrono Package and Porsche Track Precision App

The Chrono package comes as standard on the 718 Spyder. Porsche offers it as an optional extra for the 718 Cayman GT4. In addition to the analogue and digital stopwatch on the dashboard, it also includes an additional performance feature for the Porsche Communication Management (PCM), which displays, stores and evaluates lap times measured. At the same time, the Chrono package can also record any distances and define reference routes.

In the 718 Cayman GT4, the Chrono package also comes prepared to function in combination with the lap trigger, which Porsche offers through its Tequipment range. It draws on technology from the GT racing cars and automates exact measurement of lap times, without distracting the driver.

The Porsche Track Precision app enables even more detailed analysis of individual track performance. When combined with the navigation option of PCM and Porsche Connect, it allows detailed recording and subsequent analysis of driving data on a smartphone using a precise 10 Hz GPS signal. In addition to sector and lap times, the app also visualises deviations from a defined reference lap, and video analysis is even possible. As in professional motor racing, this data analysis helps the driver to continue improving their own track performance, including in comparison with other drivers.

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